

# PATENT ABSTRACTS OF JAPAN

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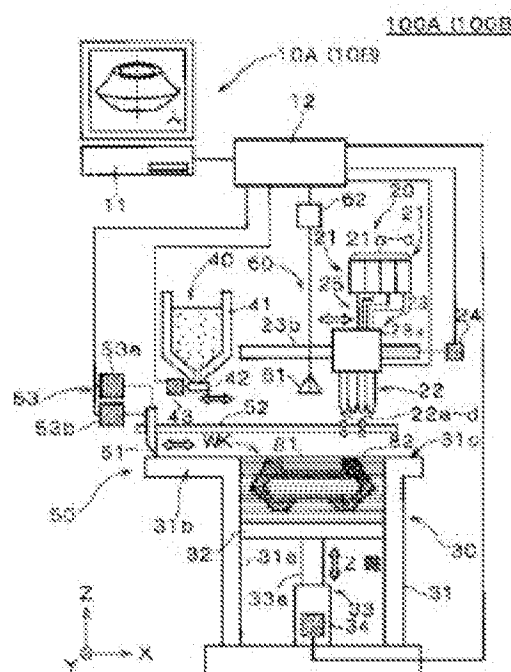
## (54) THREE-DIMENSIONAL SHAPING APPARATUS AND THREE- DIMENSIONAL SHAPING METHOD

(57)Abstract:

**PROBLEM TO BE SOLVED:** To provide three-dimensional shaping technique capable of forming a three-dimensional shaped article enhanced in strength.

**SOLUTION:** In the three-dimensional shaping apparatus 100A, a powder material of a thermally meltable resin is supplied from a powder supply part 40 and spread by moving a blade 51 in a +X direction to form a powder layer 82 on a shaping stage 32. Ink solutions having a plurality of colors are discharged to the selected regions of the powder layer 82 from a nozzle head 22. This operation is repeated with respect to the successively formed powder layers 82 and the laminated powder material of the powder layers 82 is irradiated with electromagnetic waves from an antenna 61 for the

irradiation of electromagnetic waves to generate heat from moisture in the ink solutions applied to the powder layers 82. The powder material is melted by the generated heat to form the three-dimensional article 81. As a result, the powder layers are mutually bonded by the melting of the powder material itself to enhance the strength of the three-dimensional article 81.





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